Before the
FEDERAL COMMUNICATIONS COMMISSION
Washington, D.C. 20554

In the Matter of	)	
	)	
Redevelopment of Spectrum to	)	ET Docket No. 92-9
Encourage Innovation in the	)	
Use of New Telecommunications	)	
Technologies	)	

REPLY COMMENTS OF OMNIPOINT COMMUNICATIONS, INC.

January 13, 1993

REPLY COMMENTS OF
OMNIPOINT COMMUNICATIONS, INC.

Omnipoint has consistently taken the position that equitable rules governing the spectrum allocations for different "Emerging Technologies" and services and the process for relocation and negotiation of OFS incumbents must assure that no OFS incumbent should be subjected to harmful interference from a PCS system. In addition, no OFS incumbent should be put on a "forced march" without compensation for their costs of relocating, as one OFS lobbyist described their fear.

We believe that the PCS entrants should not interfere, and if the potential for interference, as defined by the exclusion zone rules to be established as part of the PCS proceedings, indicate that a PCS operator could cause interference, that PCS operator must first negotiate with the OFS incumbent to remove or otherwise compensate for the potential interference. In the event such negotiations are unable to resolve the issues within a specified period, either party may insist that, as a condition of commencing PCS transmission in that exclusion zone, the OFS incumbent be relocated to equally reliable, equal capacity, alternative spectrum or communication means (e.g., fiber optic cable, satellite, etc.) at no cost to the incumbent.

Given the Commission and Omnipoint's position that no OFS incumbent need ever move if the relocation causes a degradation in service, the commission should require a reasonably short time frame for voluntary relocations. Any transition period longer than the three years proposed in the NPRM accomplishes nothing but giving the incumbents additional time to demand more money from the PCS operator in order to relocate.

For this sort of negotiated relocation to be feasible, several other sorts of procedures should be put in place. The following ideas are suggestions which need refinement but outline the basic parameters.

There will be concerns not only over what spectrum the incumbents will be moved to, but also with respect to what order they will be moved. Ironically, it may be the last ones to be moved rather than the first ones to be moved that will complain the loudest. One can not just say there are X MHz of spectrum in a higher band (for example 6GHz). The specific geographic pattern of the incumbent 6GHz links, coupled with the geographic needs of the 2GHz links, as well as the need to plan for growth among both constituencies means that the optimal pattern of relocation should be planned as a totality for a given geographic area. If it is not planned as a whole, the first 2GHz links to be moved will get the "best" available frequencies without considering the impact on future 2GHz links which will have to be moved later. Some specific suggestions are:

1) To prevent a suboptimal frequency allocation of the higher bands, the Commission should impanel some entity to perform the equivalent of an "RF environmental impact" study for each region to be licensed to PCS operators. Omnipoint's proposal that only two PCS operators per territory be licensed initially has the advantage that these two PCS operators should assume this responsibility. As part of obtaining a license, these PCS operators could be required to perform the optimizing analysis for the entire frequency bands under consideration, including analyzing the frequencies not licensed to them for long term use.

2) We suggest the Commission give strong consideration to creating a "Critical Needs Band" within the existing 2GHz allocation for relocation of OFS incumbents who

truly cannot be moved to higher frequencies or alternative media. This critical needs band should probably be located in the 1710-1850 MHz government spectrum. By establishing this portion of the band for the critical needs of incumbents, but placing stringent requirements for its use, the Commission can facilitate the entire relocation process. Most of the examples given by OFS users of applications which can not "risk" being moved out of the 2GHz band are for non-voice applications such as control information. These do not take up more than a small fraction of the 10MHz licensed to these OFS users. Thus, for example, if 20MHz of bandwidth were available for critical OFS needs, but rechannelized into narrower allocations such as 500KHz, then up to 20 pairs could be assigned for links which truly need the characteristics of 2GHz. These new links would be required to use the highest capacity equipment available with tight filters, high quality antennas, etc.

If this were to be coupled with the requirement for an "RF environmental impact study" as discussed above, then all the incumbents could be given an equal opportunity to identify precisely how many of their subchannels were really "critical" and required 2GHz. There are a myriad of ways to create incentives as well as checks and balances against abuse.

3) The Commission should specify a trial period -- perhaps 3-5 years -- to see if negotiated settlements work, rather than permanently grandfathering any incumbents or specifying a date certain for going to secondary status. The Commission should defer judgment and reserve the right to review how well the process is working and reserve the right to require different policies in the future. It is a dangerous precedent to permanently grandfather any class of spectrum users.

4) Perhaps most importantly from a practical perspective, the PCS licensees should be given as much "flexible spectrum" as possible so that they have multiple parties with whom to negotiate for coexistence in any given geographic area. Without true negotiating flexibility, allowing recalcitrant incumbents primary or coprimary status will result in protracted litigation or arbitration before a service can be deployed. True negotiating strength can only be provided by allowing a PCS licensee the ability to negotiate with a different incumbent if one incumbent refuses to be reasonable.

In our pioneers preference and in our Reply Comments of Omnipoint on 1850-1990 MHz Personal Communications Services (GEN Docket No. 90-314), we showed the flexibility of the Omnipoint system with respect to frequency coordination and regulatory allocation choices. Our fundamental point with respect to this issue was that a PCS system which could operate in any 10MHz contiguous frequency would have much greater chance of being deployed provided the rules allowed the use of "flexible spectrum". We detailed a flexible spectrum plan that provided each of two PCS operators 40MHz with the ability to temporarily use frequencies in the remaining 40MHz of spectrum reserve to resolve cell site specific interference issues. We are not suggesting that PCS operators be allowed to use up all of the frequencies, in fact they would be prohibited from ever using more than 40MHz in any cell. But, without some initial flexibility the PCS operators will not be able to truly negotiate to obtain stable frequency allocations through negotiated relocations. Vendor independent analysis of spectrum needs for PCS indicate that ultimately each PCS operator will need 40MHz to achieve the promise of delivering wireline quality services to a mass market.

In return for performing the "RF environmental impact study" and paying to move incumbent users (including to the "Critical Needs Band") the PCS licensees would

be given the flexible spectrum opportunity for a period of three years from the date that OFS users must relocate if compensated. Also by the end of whatever period the OFS incumbents are not required to move, these OFS incumbents would have to have negotiated settlements for relocation terms and conditions, or they lose their rights to channels in the "Critical Needs Bands".

Special Case for Unlicensed Band

The idea of an unlicensed band presents unique and special challenges for the Commission because of the inherent mobile and transient nature of unlicensed devices, whether voice or data.

There are two major issues regarding unlicensed spectrum in the 1850-1990 MHz band.

1. It is unanimously agreed that unlicensed devices require clear spectrum so that they will not interfere with the 450 OFS receivers in the 1910-1930 MHz band. However, there have been no easily serviceable solutions proposed by the companies interested in the unlicensed band on how to achieve this band clearing. Specifically, there are unanswered questions regarding:

* who puts up the initial money to pay for relocation,

* how those who do the funding get compensated,

* who does the negotiations with all the various parties,

* what legal rights do these negotiating and funding entities have, etc.

Non-profit consortiums sound like a good idea until you try to specify the details. For example, "pro rata" participation sounds like a good principle, but pro rata to what? Before any sales of unlicensed PCS units takes place, an estimated $100 million will

have to be raised and managed to achieve this band clearing. In industry forums even the largest current telecommunications equipment vendors were unwilling to contribute any money in advance. In order for contributions to occur, it seems likely that resolution to a variety of extremely difficult business and regulatory issues will be necessary.

As for compensating whoever does put up the money, will the funders get to dictate exactly what devices get built, in what order, and what "fees" will be charged per unit? Will those fees differ depending on whether it is a data device or a voice device? Are the funders guaranteed a timely return of their capital or are they supposed to just hope that marketable equipment will be built and distributed at a rate that is high enough to compensate them?

Who will police the enforcement of certification and the collection of fees? Who will monitor and resolve complaints of adjacent channel interference, whether with other OFS users or PCS license holders?

These questions do not lend themselves to timely or elegant solutions.

2. The second major issue involving unlicensed PCS is rarely discussed. Unlicensed spectrum is fine for private premises applications, but how are these devices going to communicate when they are used in the public? It is clear that **users strongly desire the ability to use the same PCS devices in both private and public environments.** The advocates for unlicensed applications should therefore support allocating 40 MHz per licensed operator so that PCS operators will cooperate in the design of protocols that will allow the use of PCS equipment in all environments. Omnipoint's approach is to make products and services which will allow the same devices - whether used for voice, data, or video - to be used in either licensed or unlicensed bands.

PROPOSED SOLUTION: The licensed PCS operators can solve both of the above problems for the unlicensed users.

Omnipoint proposes that the FCC require licensed PCS operators pay for relocating all of the OFS operators in the unlicensed bands in their territories in exchange for being granted the flexible spectrum approach (that is, two operators per licensed area with the ability to use the frequencies in the proposed spectrum reserve to temporarily solve site specific interference problems in order to obtain 40 MHz of usable spectrum). This relocation **would not** be into the licensed frequencies as proposed by others, but would be to higher frequencies or other transmission media.

A financial responsibility to clear out a pro rata share of the OFS users in the 1910-1930 MHz band would be placed on each of licensed operators in their licensed area. This financial responsibility would be relatively low in most areas with an average of a few hundred thousand dollars per licensed operator having to be spent. This would be a modest increment over the costs of moving existing OFS users from licensed spectrum.

The **benefit to the licensed PCS operators** is that they would be incented (with adequate spectrum) to build networks and support protocols that will allow sufficient interoperability for unlicensed equipment to use licensed spectrum. This will lead to increased usage of the PCS network.

The main **benefit to the unlicensed PCS equipment manufacturers** is that they will not have to solve the problem of raising $100 million and manage all of the related, complex issues. In addition, unlicensed equipment manufacturers will have the assurance that enough interoperability will exist to allow their unlicensed devices to also be used in public environments. Moreover, since the OFS users in a licensed area

typically have a mix of applications using frequencies both within and outside the 1910-1930 MHz band, the negotiating process would be handled by a single company and thus be greatly simplified.

The **benefit to the PCS user** is the ability to use a single device in the office and in the public domain. This capability is expected by future PCS customers and will be required to make PCS, both unlicensed and licensed, viable and competitive.

Obviously, there are many permutations on these ideas. The fundamental point is that a system of negotiation between OFS incumbents and the PCS operator must allow for maximum regulatory and negotiating flexibility.

Respectfully submitted,

Douglas G. Smith
President

Omnipoint Communications, Inc.
7150 Campus Drive
Colorado Springs, CO 80920
(719) 548-1200

January 13, 1993